

No.

9600135



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Illinois Agricultural Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE REQUIREMENTS OF SEVERAL GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET

SOYBEAN

'Macon'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this eighth day of September, in the year of our Lord two thousand.

Attest:

Ann M. ...
Commissioner
Plant Variety
Protection Service

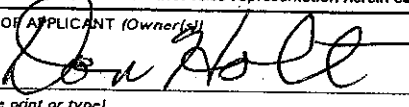
Samuel ...
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) University of Illinois		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER LN89-295	3. VARIETY NAME Macon
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Illinois Agricultural Experiment Station 1301 W. Gregory 211 Mumford Hall University of Illinois Urbana, IL 61801		5. TELEPHONE (include area code) 217-333-0240 244-2795	FOR OFFICIAL USE ONLY PVPO NUMBER 9600135 DATE FEB 9, 1996 FILING AND EXAMINATION FEE \$ 2450 DATE 2-9-96 CERTIFICATION FEE \$ 300.00 DATE 8/7/00
6. FAX (include area code)	7. GENUS AND SPECIES NAME Glycine max (L.) Merr.	8. FAMILY NAME (Botanical) Leguminosae	
9. CROP KIND NAME (Common name) Soybean			
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name) State University			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION		12. DATE OF INCORPORATION	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Donald A. Holt, Director Dr. Cecil Nickell, Director Illinois Agricultural Experiment Station 1301 W. Gregory Drive, Room 211 University of Illinois Urbana, IL 61801			
14. TELEPHONE (include area code)			
15. FAX (include area code)			
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to PVPO)			
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act?) <input checked="" type="checkbox"/> YES (If "yes," answer items 18 and 19 below) <input type="checkbox"/> NO (If "no," go to item 20)			
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED	
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> YES (If "yes," give names of countries and dates) <input checked="" type="checkbox"/> NO			
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT (Owner(s)) 		SIGNATURE OF APPLICANT (Owner(s))	
NAME (Please print or type) Donald A. Holt		NAME (Please print or type)	
CAPACITY OR TITLE Director	DATE 02/02/96	CAPACITY OR TITLE	DATE

SOYBEAN

'Macon'

14a. Exhibit A:

Pedigree: Sherman x Resnik

Macon originated as a F_4 plant selection from the cross of Sherman x Resnik. The Sherman x Resnik cross was made in the field in the summer of 1986, and the F_1 generation grown in the field in 1987. The F_2 , F_3 and F_4 generations were advanced by single-seed-descent in Puerto Rico during the winter 1987-1988, and at Urbana, IL in the summer 1988. The F_5 generation was grown as plant rows in 1989 and single plant rows selected for evaluation in replicated yield trials in Illinois in 1990 and 1991. Macon was evaluated as LN89-295 in Preliminary IIIA in 1992, and in Uniform III Test in 1993-1994 of the Uniform Soybean Tests Northern Region Test(3).

Macon appears stable and uniform through five generations of selfing and during seed increase program for other characteristics.

14b. Exhibit B: Novelty Statement




Macon is most similar to Resnik. Macon differs from Resnik having white flowers while Resnik has purple flowers. Macon with no known gene for phytophthora resistance is susceptible to phytophthora rot (caused by *Phytophthora sojae*) races 1, 2, 3, 4, 5, 6, 7, 8, and 9 while Resnik with the *Rps1-k* gene is resistant to phytophthora rot races 1, 2, 3, 4, 5, 6, 7, 8, and 9.

OBJECTIVE DESCRIPTION OF VARIETY
 SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) University of Illinois	TEMPORARY DESIGNATION LN89-295	VARIETY NAME Macon
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 1301 W. Gregory, Illinois Ag. Experiment Station 211 Mumford Hall University of Illinois, Urbana, IL 61801		FOR OFFICIAL USE ONLY PVPO NUMBER 9600135

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:

<input type="text" value="1"/>			
1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)	2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)		4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)			

★ 2. SEED COAT COLOR: (Mature Seed)

<input type="text" value="1"/>	1 = Yellow	2 = Green	3 = Brown	4 = Black	5 = Other (Specify) _____
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3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

<input type="text" value="1"/>	1 = Dull ('Corsoy 79'; 'Braxton')	2 = Shiny ('Nebsoy'; 'Gasoy 17')
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★ 4. SEED SIZE: (Mature Seed)

<input type="text" value="1"/> <input type="text" value="7"/>	Grams per 100 seeds
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★ 5. HILUM COLOR: (Mature Seed)

<input type="text" value="6"/>	1 = Buff	2 = Yellow	3 = Brown	4 = Gray	5 = Imperfect Black	6 = Black	7 = Other (Specify) _____
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★ 6. COTYLEDON COLOR: (Mature Seed)

<input type="text" value="1"/>	1 = Yellow	2 = Green
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★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

<input type="text" value="1"/>	1 = Low	2 = High
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★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

<input type="text" value="1"/>	1 = Type A (SP1 ^a)	2 = Type B (SP1 ^b)
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★ 9. HYPOCOTYL COLOR:

<input type="text" value="1"/>	1 = Green only ('Evans'; 'Davis')	2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
	3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')	
	4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')	

★ 10. LEAFLET SHAPE:

<input type="text" value="3"/>	1 = Lanceolate	2 = Oval	3 = Ovate	4 = Other (Specify) _____
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11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☐ 21 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

☐ 1

1 = White

2 = Purple

3 = White with purple throat

★ 14. POD COLOR:

☐ 2

1 = Tan

2 = Brown

3 = Black

★ 15. PLANT PUBESCENCE COLOR:

☐ 2

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☐ 21 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

☐ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ 18. MATURITY GROUP:

☐ 0 ☐ 6

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★

☐ 0Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

☐ 0Bacterial Blight (*Pseudomonas glycinea*)

★

☐ 0Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★

☐ 1Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

★

☐ 0

Race 1

☐ 0

Race 2

☐ 0

Race 3

☐ 0

Race 4

☐ 0

Race 5

☐ 0

Other (Specify)

☐ 0Target Spot (*Corynespora cassiicola*)☐ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 0Powdery Mildew (*Microsphaera diffusa*)

★

☐ 1Brown Stem Rot (*Cephalosporium gregatum*)☐ 0Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ ☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 0 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 1 Race 1 ☐ 1 Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ 1 Race 5 ☐ 1 Race 6 ☐ 1 Race 7
- ☐ 1 Race 8 ☐ 1 Race 9 ☐ Other (Specify) _____

VIRAL DISEASES:

- ☐ 0 Bud Blight (Tobacco Ringspot Virus)
- ☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 0 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 0 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 1 Race 1 ☐ 1 Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ Other (Specify) _____
- ☐ 0 Lance Nematode (*Hoplolaimus Colombus*)
- ★ ☐ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 1 Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 0 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	Resnik	Seed Coat Luster	Thorne
Leaf Shape	Resnik	Seed Size	Resnik
Leaf Color	Resnik	Seed Shape	Resnik
Leaf Size	Resnik	Seedling Pigmentation	Thorne

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
Submitted/ Macon	133	1.7	84	4.8	11.5	41.0	20.5	17.3	2.5
Resnik Name of Similar Variety	127	1.5	79	4.5	10.2	41.6	20.9	14.8	2.5

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBT1-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

14d. Exhibit D. Additional Description of Variety

Macon is an indeterminate cultivar classified as Group III maturity (relative maturity 3.9) 5 days later than Resnik. It is best adapted to 38 to 41° N lat. When compared with Resnik, Macon averaged 10% higher seed yield, 2.5 cg larger seeds, 0.6% percentage unit lower seed protein and 5 cm taller plant height. Macon is similar to Resnik in lodging and seed quality scores.

14e. Exhibit E. Statement of Basis of Applicants Ownership

Macon was originated and developed by Professor C. D. Nickell of the Department of Crop Sciences, Illinois Agricultural Experiment Station, University of Illinois. By agreement between employee and the University of Illinois, all rights to any invention, discovery, and development made by an employee are assigned to the University of Illinois. No rights to such invention, discovery, and development are retained by the employee.